Data Flow Systems, Inc.

March 6, 2000

Magalie Roman Salas
Office of the Secretary of FCC
Federal Communications Commission
445 12th Street SW
Counter TWA 325
Washington, DC 20554

Reference: Petition for change in Rule
47 CFR 90.35 Industrial/Business Pool.
47 CFR 90.259 Assignment and Use of Frequencies In The Bands 216-220MHz and 1427-1435 MHz.

Dear Ms. Salas:

The purpose of this letter is to request and recommend a rule change to 47 CFR 90.35 as it pertains to the **216-220 MHz**., band. Specifically, I am requesting and recommending that the note in the class of stations column be changed from "***Base or Mobile***", to "***Fixed, Base, or Mobile***" as it is shown in the 450 to 470 band of frequencies. Further, I am requesting that the statement in 47 CFR 90.259 which reads "*Base stations authorized in these bands **shall** be used to perform telecommand functions with associated mobile telemetering stations*", be change to read "***may** be used to perform...*"

This request for rule changes is founded upon safety of life and property issues associated with the employment of Supervisory Control and Data Acquisition (SCADA) telemetry systems by the nations water (fresh and wastewater) utility systems and precedence established by the FCC in issuing operating licenses.

As you may or may not be aware, water utility systems throughout the United States are faced with the dual challenges of; (1) providing economical water utility services to a rapidly growing and increasingly geographically widespread population, and (2) complying with an expanding inventory of complex and costly environmental regulations such as the federal Safe Water Drinking Act and the Clean Water Act. Through the employment of state-of-the-art technology, municipal officials and utility operators have largely succeeded in meeting these challenges. One of the most important technologies employed in this regard is radio telemetry based SCADA technology. An overwhelming majority of our nations larger water utility systems and an increasing number of small utilities are employing radio telemetry based SCADA technology in the monitoring and control of their systems. Through SCADA technology, utilities are able to monitor and control their system's plants and geographically dispersed pumping stations on a real time basis, 24 hours a day from remote locations. This technology allows utilities to increase the effectiveness of system operations while decreasing operating costs.

An example of the significant role which SCADA technology has and continues to play in enabling water utilities to meet the dual challenges of providing economical high quality water utility services and protecting water resources is found in the case of the Miami-Dade Water and Sewer Department (MDWASD).

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Pursuant to the Clean Water Act, the Environmental Protection Agency (EPA) had alleged that the wastewater operations of MDWASD "endangered the health and welfare of its citizens" (April 1998 edition of Florida Water Resources Journal) by allowing the illegal discharge of untreated wastewater from the utility's wastewater transmission and collection system. Under the terms of a negotiated Consent Decree MDWASD was required to "install and maintain a computerized collection and transmission system model to facilitate operation and maintenance procedures, to evaluate the effectiveness of collection system improvements and to predict flow and pressures in conduits, wastewater overflows, and in-line storage capacity" (April 1998 edition of Florida Water Resources Journal). Employing the most current technology available MDWASD developed what has become known as the "Virtual Dynamic Computer Model" which is capable of predicting potential sanitary sewer overflows resulting from peak flow conditions.

The enormous size and complexity of MDWASD's system made the employment of SCADA radio telemetry technology a critical necessity in both the daily operation of the system and the development and utilization of the Virtual Dynamic Computer Model. MDWASD operates the largest collection and transmission system in Florida, serving over 329,000 retail sewer customers and thirteen wholesale customers. The utility's service area covers nearly 400 square miles and is bounded by the Everglades and Biscayne Bay, both of which are extremely sensitive environmental bodies. MDWASD wastewater transmission system consists of 1,500 miles of force main, 2,500 miles of gravity sewer, and over 900 pump, and lift stations. The system discharges wastewater to three treatment plants that collectively treat up to 325 million gallons per day. The MDWASD's sewer system facilities are monitored and controlled by an extensive SCADA system that transmits in the 928/952MHz. band.

In the absence of a SCADA capability, each of MDWASD's three treatment plants and 900 plus pumping stations would require manual monitoring. The cost of staffing to perform on going manual system monitoring and the probability of the occurrence of an undetected system malfunction resulting in a catastrophic release of wastewater into the environment are such that operating the MDWASD system without SCADA telemetry is not a viable option. Beyond this, compliance with the EPA's consent decree in the establishment of the "Virtual Dynamic Computer Model" all but mandated the utility's employment SCADA technology. According to Mr. William M. Brant, P.E. MDWASD "SCADA data was essential for use in model calibration and verification" and that "in the future, SCADA will be used to continually calibrate the model with storm data".

In describing the current operating requirements of wastewater utility systems in general and the situation of the MDWASD in specifics, it is the authors intent to covey to the Secretary that **the employment of SCADA technology is no longer optional** for the vast majority of urban water utility systems. The fact that water utility services are delivered by municipalities in an environment that is characterized by; (1) fiscal budget limitations, (2) expanding consumer/voter demand for low cost utility service; and (3) legislatively mandated minimum levels of service has resulted in local governments reliance upon SCADA telemetry as a source of operational economy and monitoring efficiency for their water utilities.

A review of the FCC's licensing history reveals that for the past five years the Commission has been granting licenses in the 216MHz. band for telemetry operations to State, Regional, County, and Municipal, governments for monitoring and control of water and wastewater utility operations.

During this period no less than 600 radio telemetry sites located in nine states have been licensed by utilities, with the assistance of our company (Data Flow Systems, Inc.), as FXO sites with the full knowledge of the FCC.

Data Flow Systems, Inc. (DFS) is a Florida corporation that is engaged in the manufacture and sale of SCADA systems to the water utility industry. DFS's clients consist of both public and private utility companies located throughout the United States. The vast majority of DFS clients are, however, located in the Southeast where geographical conditions require utilities to make extensive use of pumps, lift stations and retention ponds which are typically dispersed over a wide area. DFS has over 120 SCADA systems currently in operation or nearing completion.

In connection with its core business, DFS routinely assists its clients in obtaining and maintaining radio frequencies for their SCADA telemetry systems. In 1995 DFS began to encounter extreme difficulty in obtaining satisfactory channels in the 150 to 174 MHz., and 450 to 470 MHz., bands in the state of Florida. At the suggestion of Mr. Gil Lineberry, the than APCO coordinator for the state of Florida, DFS undertook an investigation into the viability of employing the 216 to 218 MHz. band for telemetry uses. Telephone contacts were made by the author with the FCC and instructions were provided as to how to proceed to file for this band of frequencies.

Acting upon the recommendation of APCO's Florida coordinator and in accordance with instructions received from the FCC, DFS applied for and was granted under WPHW931 its first license in the 216MHz band (specifically 216.825 MHz) on August 3, 1995. The Form600 application for this license dated 2/24/95 was for four sites all under Schedule G column G_2 as FX1's. The next license obtained by DFS in this band was on behalf of the city of Saint Cloud, Florida. This was for six sites on a frequency of 216.875 MHz. The FCC granted the license on April 22, 1996 with the designation of FB in all blocks G2 for all of the sites.

To date, in the 216 to 218 MHz. band, no less than 135 individual licenses for 43 separate water utilities identifying over 600 radio telemetry site locations classified as FXOs have been processed by DFS and licensed by the FCC (see attached). These utilities are engaged in the monitoring and control of potable water systems, wastewater collection and treatment systems, and management of flood control districts. All of these entities are responsible to the EPA and the public, for providing a quality product and insuring proper treatment of wastewater before it is returned to the environment. In addition most if not all of these entities have built the future expansions of their respective control and monitoring systems around the availability of 216 to 218 MHz. band of radio frequencies.

The issuance of FXO licenses in the 216 to 218 MHz. band is not unique to DFS or its clients. A cursory search of the FCC's database has revealed that in apparent contradiction to rule 47 CFR 90.35 and 90.259 the FCC has on numerous occasions granted licenses for frequencies in the 216 to 218 MHz. bands not only as FXOs, but also as FXOT, FBT, and FB2T class stations as well as FX1 and FXW. Examples of this include; Southern California Edison which was licensed on March 9, 1992, as an FXO on 217.100 MHz. under license WNIA772, and Chicago's Commonwealth Edison Company which has been granted licenses as FX1, FX2, FBT, FB2T, and FXOT, under licenses WNCL914, 916, and WNCF436. The Southern California Edison license was granted a full three years prior to DFS's first application.

In conclusion, while it is clear that rule 47 CFR 90.35 and 90.259 specifically restricts licenses in the 216 to 218 MHz. bands to Base and Mobile stations it is equally clear that the ability of municipalities to deliver water utility services that are both economical and protect the environment is contingent upon the ability of utilities to employ SCADA radio telemetry.

Further, the FCC's history of issuing licenses in the 216 to 218 MHz. bands for station types other than those permitted by rule evidences the fact that there exists no compelling reason to maintain the limitations imposed by 47 CFR 90.35 and 90.259.

Therefore, in the interest of the safety of life and property of the residents of communities served by water utilities currently licensed to operate SCADA telemetry systems in the 216 to 218 MHz. bands, and the residents of communities served by water utilities who will require radio communications services but are located in area's where adequate frequency spectrum is not available, we herewith respectfully recommend and urge the FCC to amend rules 47 CFR 90.35 and 90.259 as specified above.

Sincerely,

Donald B. Schultze
Radio Survey Department
Data Flow Systems, Inc.

Copy: Walter Boswell, Chief of Licensing Division
Scott Stone, Rules Department, FCC
Mike Regic, Legal Department, FCC.

Attachments.

Attachment

Licensee	Frequency	Call Sign	Station Class
1. City of Alachua, FL	217.275	WPMY556	FXO
2. City of Apopka, FL	216.825	WPJW705	FXO
		WPJW707	FXO
3. State of North Carolina	217.250	WPMC457	FXO
4. State of California, (Big Sur)	216.600	WPMT605	FXO
		WPMT629	FXO
5. City of Bonita Springs, FL	216.750	WPNX556	FXO
6. Town of Boone, NC	217.450	WPMG956	FXO
7. City of Brooksville, FL	216.850	WPPX783	FXO
8. City of Bushnell, FL	216.925	WPPF482	FXO
9. City of Cape Canaveral, FL	217.625	WPMD286	FXO
		WPMD289	FXO
10. County Gov. of Collier, FL	216.950	WPKJ725	FXO
		WPKJ738	FXO
		WPKM379	FXO
		WPKZ366	FXO
		WPKZ368	FXO
		WPKZ390	FXO
		WPKZ392	FXO
		WPLY256	FXO
		WPLY519	FXO
		WPLY521	FXO
		WPLY524	FXO
		WPLY525	FXO
		WPMX448	FXO
11. City of Coral Gables, FL		WPKV731	FXO
		WPKV733	FXO
12. City of Deland, FL	216.200	WPNQ824	FXO
		WPNQ834	FXO
		WPNQ835	FXO
		WPPV347	FXO
13. Duke Power, Anderson, SC	216.875	WPKK500	FXO
14. Duke Water Systems, NC	217.925	WPOZ987	FXO
15. City of Eagle Pass, TX	216.800	WPPG732	FXO
		WPPG734	FXO
		WPPG839	FXO
16. County of El Paso, TX	216.825	WPOZ454	FXO
17. City of Foresthill, PUD, CA	217.375	WPPU469	FXO
18. Gloucester Township, NJ	216.825	KNNU337	FXO
		WPKK446	FXO
		WPPK447	FXO

19. Town of Goodlettsville, TN	216.450	WPMB914	FXO
20. Town of Hackettstown, MUA NJ	217.500	WPKX377	FXO
		WPKX380	FXO
		WPKX922	FXO
21. County of Hernando, FL	216.475	WPPX305	FXO
22. Kerr Lake Reg Water Dist. NC.	216.825	KNNU336	FX1
		KNNU338	FX1
23. City of Lake Placid, FL	216.450	WPNX927	FXO
24. City of Lake Worth, FL	218.800	WPKW671	FXO
25. City of Lancaster, SC	216.525	WPMU206	FXO
		WPMU279	FXO
26. City of Lenior, NC	216.225	WPNZ822	FXO
		WPNZ823	FXO
27. Loxahatchee Groves, FL	216.825	WPMY249	FXO
28. County of Manatee, FL	216.100	WPNX536	FXO
		WPNX537	FXO
		WPNX538	FXO
		WPPA703	FXO
		WPPA704	FXO
29. County of Polk, FL - SW	216.975	WPOY617	FXO
30. County of Polk, FL - SW	216.975	WPOY619	FXO
31. County of Polk, FL - SE	217.450	WPPV822	FXO
32. County of Polk, FL - SE	217.525	WPPV823	FXO
33. City of Punta Gorda, FL	216.300	WPMD290	FXO
34. County of St. Mary's, MD	217.825	WPMM748	FXO
		WPMM749	FXO
		WPOY607	FXO
35. South Walton Utility, CO, FL	216.825	WPLR278	FXO
		WPLR279	FXO
		WPLR280	FXO
		WPLR281	FXO
		WPLR283	FXO
		WPLR350	FXO
		WPLR351	FXO
		WPLR352	FXO
		WPLR353	FXO
36. City of St. Cloud, FL	216.875	KNNT220	FB
37. State of New Jersey	216.800	WPPY652	FXO
38. City of Stephenville, TX	216.850	WPNY556	FXO
		WPNY557	FXO
		WPNY558	FXO
39. City of Stratford, CT	216.825	WPKA605	FX1
		WPKZ943	FXO
		WPKZ944	FXO
40. City of Sulphur Springs, TX	216.825	WPKA217	FXO

41. Town of Palm Beach, FL	216.850	WPLU421	FXO
		WPLU422	FXO
		WPLU423	FXO
42. State of Florida, UCF	217.000	WPKW651	FXO
43. City of Union, SC	217.975	WPMJ432	FXO
44. Upper Leon River Water Auth	216.950	WPLP476	FXO
7 cities & towns in C. Tx.		WPLS222	FXO
45. Village of Mt. Morris, IL	216.525	WPNX213	FXO
46. County of Volusia, FL	216.500	WPMH524	FXO
		WPMH526	FXO
		WPNP552	FXO
		WPNP558	FXO
		WPNP559	FXO
47. County of Volusia, FL SE	217.975	Pending in FCC	FXO
48. Township of Washington, NJ	216.875	WPJM995	FX1
		WPKK356	FXO
		WPKK358	FXO
		WPKK359	FXO
		WPKK498	FXO
		WPKN899	FXO
		WPKR450	FXO
		WPKX212	FXO
		WPMK310	FXO
		WPMW208	FXO
		WPPV736	FXO
49. City of West Palm Beach, FL	216.900	WPKK580	FXO
50. City of Winter Haven, FL	216.725	WPMI221	FXO
		WPMI222	FXO
51. City of Winter Park, FL	216.600	WPNR936	FXO
		WPNR937	FXO
		WPNR938	FXO
		WPNR939	FXO
		WPNR940	FXO
		WPNR941	FXO
		WPNR942	FXO
		WPNR943	FXO
		WPNR944	FXO
		WPNR945	FXO
52. City of Zephryhills, FL	216.575	WPPG301	FXO